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IN THE CLAIMS:

Please cancel claims 3 and 4 without prejudice or disclaimer of the subject matter thereof.

Please amend the following claims:

1. (Amended) A continuous wave ranging system, comprising: an r.f. generator for generating an r.f. carrier wave, a modulator for modulating said r.f. carrier wave in accordance with a pseudo random code, a transmitting antenna for radiating a modulated signal from said modulator towards a target, a receiving antenna and receiver for detecting a signal reflected back from said target, a correlator for correlating said signal reflected back from the target with said pseudo random code which incorporates a selected phase shift corresponding to a current range gate to be tested, whereby the range of the target from the system may be determined, a store containing a plurality of different pseudo random codes, and selector means arranged to supply to the modulator and to the correlator a code selected from said store, which selected code does not provide a breakthrough [whose] sidelobe [characteristics are suitable for] within a next range gate to be tested.

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A. W. C. H.

2. (Amended) A system as claimed in claim 1, wherein [a plurality of] said selector means selects the codes [are selected] from the store and [used] uses them in a sequence which substantially eliminates the effect of breakthrough sidelobes.

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5. (Amended) A system as defined in claim [3] 6, wherein said selector means selects codes from the plurality of codes [is selected] to reduce the number of code changes required when scanning different ranges.

[Please add new claims 6-8 as follows:]

--6. A system as defined in claim 2, wherein said selector means selects codes from said store, which selected codes do not produce breakthrough side lobes in future range gates to be tested.

7. A system as claimed in claim 6, wherein: said system is operative to sequentially scan increasing ranges; and said selector means selects codes which do not produce breakthrough side lobes within the longest range gate.

8. A method of operating a continuous wave ranging system which comprises an r.f. generator for generating an r.f. carrier wave, a modulator for modulating said r.f. carrier wave in accordance with a pseudo random code, a transmitting antenna for radiating a modulated signal from

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said modulator towards a target, a receiving antenna and receiver for detecting a signal reflected back from said target, a correlator for correlating said signal reflected back from the target with said pseudo random code which incorporates a selected phase shift corresponding to a current range gate to be tested, whereby the range of the target from the system may be determined, a store containing a plurality of different pseudo random codes, and selector means arranged to supply to the modulator and to the correlator a code selected from said plurality of different pseudo random codes in said store; the method comprising the steps of: for each stored code, ascertaining and providing an indication of, the range gates within which the respective stored code will produce a breakthrough side lobe; and during ranging use of the system, causing the selector means to select from the store only a code which does not produce a breakthrough side lobe within a next range gate to be tested.--

IN THE ABSTRACT:

line 1, change "ABSTRACT" to:

--ABSTRACT OF THE DISCLOSURE--;

line 2, delete "RANGING SYSTEMS";

line 16, change "whose" to --which code does not produce a breakthrough--; and

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